What Is Claimed Is:

1. A method for producing an integrated microsystem, the method comprising:

providing at least one silicon-germanium functional layer;

providing at least one germanium sacrificial layer, wherein the at least one germanium sacrificial layer is at least partially removed in an etching solution, and a pH value of the etching solution is stabilized around a pH value of at least approximately 7 by using a buffer; and

providing at least one open metal surface

2. The method of claim 1, wherein the buffer is free of at least one of alkalis, alkaline earths and metals.

3. The method of claim 1, wherein the buffer is selected so that a change in the pH value of the etching solution by etching products, which form during the etching process, is prevented by the buffer.

4. The method of claim 1, wherein the etching solution is made up at least partially of acidified hydrogen peroxide.

5. The method of claim 1, wherein the etching solution contains one of peroxosulfate, peroxodisulfate, a chlorate, a chlorite and a hypochlorite as an oxidizing agent.

6. The method of claim 1, wherein a buffer solution of the buffer contains cations of nitrogen compounds.

7. The method of claim 1, wherein the buffer contains at least one of a bicarbonate, a carbonate, a tartrate and an acetate.

8. The method of claim 1, wherein the buffer contains anions

of phosphorus compounds.

9. The method of claim 1, wherein the buffer includes nitrate ions.

10. The method of claim 7, wherein the buffer is made of at least one of ammonium acetate, ammonium dihydrogenphosphate and tetramethyl ammonium dihydrogenphosphate.

11. A method for producing a microsystem, the method comprising:

forming additionally a layer on areas of a first functional layer as a protective layer that acts during a sacrificial layer etching process so that during removal of the sacrificial layer no etching of areas of the first functional layer covered by the protective layer occurs, and in a region of the areas of the first functional layer implemented without the protective layer, a sublayer is removed essentially selectively from a conductive area at the same time as the sacrificial layer;

wherein the microsystem includes, situated on a substrate, the first functional layer that has the conductive area and the sublayer situated on a side of the conductive area facing away from the substrate, and having a second mechanical functional layer which is situated on a side of the first functional layer facing away from the substrate and is first applied to the sacrificial layer that is situated on the first functional layer, and having a layer that constitutes an etch stop layer during etching of the sacrificial layer, situated on a side of the sublayer) facing away from the conductive area.

12. The method of claim 11, wherein the sublayer includes multiple layers, and one of the layers includes a diffusion barrier.

13. The method of claim 11, wherein the first functional layer is structurally and electro-conductively configured so that it constitutes an electrical connection between a mechanical unit and an electronic unit of the microsystem.

14. The method of claim 12, wherein the conductive area of the first functional layer includes a metal layer.

15. The method of claim 11, wherein the protective layer includes an SiO_2 layer that constitutes an etch stop layer during at least one of removal and structuring of the sacrificial layer.

16. The method of claim 15, wherein the protective layer includes an LTO layer.

17. The method of claim 15, wherein the protective layer includes a PECVD SiO_2 layer.

18. The method of claim 11, wherein the sacrificial layer includes a Ge sacrificial layer that is removed with H_2O_2.

19. The method claim 11, wherein the protective layer includes an SiC layer and the sacrificial layer includes an LTO layer, the sacrificial layer being removed by using hydrofluoric acid.

20. The method of claim 11, further comprising:

prior to structuring at least one of the layers of the microsystem, applying an organic lacquer layer to the at least one of the layers to be structured, and providing at least one of exposure, development and thermal treatment prior to the structuring of the at least one of the layers.

21. The method of claim 20, further comprising:

thermally treating the organic lacquer layer, which is applied respectively to the at least one of the layers that is to be structured prior to the structuring of the at least one of the layers of the microsystem, at a temperature and a process duration so that the organic lacquer layers are formed with lateral faces that run essentially perpendicularly to the surface of an underlying layer of the microsystem.

22. The method of claim 21, wherein the thermally treating is performed at a temperature of 90°C to 130°C.

23. The method of claim 20, further comprising:

thermally treating the organic lacquer layer, which is applied to the first functional layer before the latter is structured, at a temperature of 100°C to 180°C and a process duration such that edge areas of the organic lacquer layer are one of rounded and at least approximately trapezoidal in cross-section.

24. The method of claim 23, wherein the first functional layer is structured so that profiles of lateral walls of the first functional layer) correspond essentially to a lateral wall profile of the organic lacquer layer applied to the first functional layer for the structuring.

25. The method of claim 20, wherein the organic lacquer layer is exposed, developed, thermally treated and then removed prior to applying another layer of the microsystem to an already structured layer.

26. The method of claim 6, wherein the buffer solution of the buffer contains at least one of ammonium, tetramethylammonium and tetraethylammonium ions.

27. The method of claim 8, wherein the buffer contains anions of dihydrogenphosphate, hydrogenphosphate or phosphate ions.

28. The method of claim 14, wherein the metal layer includes an aluminum layer, and the diffusion barrier includes a TiN layer, which are structured using a plasma etching process.

29. The method of claim 22, wherein the thermally treating is performed at a temperature of 120°C.

30. The method of claim 23, wherein the temperature is at 165°C.